DRAWINGS

In this Reply, amended Figures 10A – 10C are submitted herewith – both proposed drawing changes and replacement sheet. These figures are intended to replace the replacement Figures 10A – 10C previously submitted in the Reply filed on October 19, 2004. The newly submitted Figures are more consistent with the specification. Applicant respectfully request that the new replacement figures be accepted.

REMARKS

Applicant thanks the Examiner for the very thorough consideration given the present application.

Claims 1-8 are now present in this application. Claim 1 is independent.

Amendments have been made to the Specification, and claims 1, 2, 3, 5, 6, 7 and 8 have been amended. No new matter is added by these amendments. Reconsideration of this application, as amended, is respectfully requested.

Objection to the Specification Including Verified Translation

The Examiner has objected to the specification under 35 U.S.C. 112, first paragraph, pointing out specific examples of unclear, inexact or verbose terms or phrases used in the specification.

Specifically, the Examiner refers to paragraph 12 on page 6, which provides that "when this occurs the robot arm 8 is in contact with both the glass substrate 4 and the susceptor 10." The Examiner states that this does not appear to be correct.

While not conceding to the appropriateness of the Examiner's statement, the sentence "when this occurs the robot arm 8 is in contact with both the glass substrate 4 and the susceptor 10" has been deleted from the specification.

The other matter pointed out by the Examiner (asserted to be new matter) is related to a groove for collecting scraped material from the susceptor (see paragraph [0016]). To address the Examiner's objection, paragraph [0016] has been amended to delete the portion asserted to be new matter.

Accordingly, the Applicant submits that the specification is written in "full, clear, concise and exact terms, and is in compliance with 35 U.S.C. 112, first paragraph. Thus, while not necessary, the verified translation of the of the priority document is provided herewith as requested by the Examiner. Reconsideration and withdrawal of this objection are respectfully requested.

Rejection Under 35 U.S.C. § 112, 1st Paragraph

Claims 1-8 stand rejected under 35 U.S.C. § 112, 1st Paragraph. This rejection is respectfully traversed.

Particularly, the Examiner states that claim 1 provides that the groove in the susceptor is for receiving material scraped from a surface of the susceptor by a leading edge of the glass substrate, and that this is not supported in the specification.

To address the Examiner's rejection, claim 1 has been amended to recite "a groove formed in said portion of the susceptor for receiving material resulting from sliding of the glass substrate on the surface of the susceptor."

Applicant respectfully submits that claim 1, as amended, is fully supported by and adequately described in the written description of the invention. For examples, please refer to paragraphs [0043], [0044] and [0045] of the written description of the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 2 and 3 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner states that the claimed distance from the edge of the substrate to the groove is indefinite. The reasoning provided by the Examiner is that "the distance is claimed from the substrate edge, which is not fixed with respect to the susceptor (since the moving substrate may touch the susceptor at any point depending upon the weight and size of the substrate which cause the robot arm to bend) while the groove is fixed with respect to the susceptor".

The second paragraph of 35 USC 112 requires claims to be set out and circumscribe a particular area with a reasonable degree of precision and particularity, In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977). The test for compliance with the second paragraph of 35 USC 112, as stated in Miles Lab., Inc. v. Shandon, Inc., 997 F.2d 870, 875 (Fed. Cir. 1993) is whether

one skilled in the art would understand the bounds of the claims when read in light of the specification. If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more.

In this case, the Applicant submits that one skilled in the art would understand "a length of said sliding portion, measured from said groove, is at least 3 mm" as recited in claim 2 (as amended) and "a length of said sliding portion, measured from said groove, is 10 mm" as recited in claim 3 (as amended). These claims set out and circumscribe this particular area (the sliding portion) with a reasonable degree of precision and particularity. The second paragraph of § 112 demands no more.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 1-3 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tepman et al. (Tepman), and also stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,589,224 to DuBois et al. (DuBois). These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejections, but merely to advance prosecution of the instant application, Applicant respectfully submits that independent claim 1 has been amended to recite a combination of elements in a vacuum deposition apparatus, including a portion of the susceptor providing an area used as a sliding portion on which to slide the glass substrate to a desired position; and a groove formed in said portion of the susceptor for receiving material resulting from sliding of the glass substrate on the surface of the susceptor. Applicant respectfully submits that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Tepman and DuBois.

Sliding a Substrate (Tepman)

Particularly, the Applicant submits that Tepman does have any structure which can be equated with a susceptor having a sliding portion on which to slide the glass substrate. Further, a groove of Tepman does not receive material resulting from sliding of the glass substrate on the surface of the susceptor. The Applicant has meticulously searched the Tepman reference in an effort to find any one of the terms "slid", "slide" and/or "sliding". None of these terms are found in the Tepman reference. In other words, in Tepman, there is no provision to slide a substrate into position. In this regard, Tepman appears to perform a transfer which is fundamentally different from the sliding transfer of the Applicant's

claimed invention.

Particularly, Tepman uses a robot blade 32 to position a substrate over a pin array (30-30). Then, the pins 30-30 are raised by an elevator 32 to lift the substrate off of a robot blade 32 (see Tepman, Col.5, lines 19-40). No portion of support member 16 or any other structure of Tepman is provided to slide a substrate thereon.

Further, as the Applicant explained in the Reply of October 19, 2004 (incorporated herein by reference), a channel or groove 38 is provided in the substrate support 16A along the periphery of a substrate 14. The groove 38 allows additional build-up of deposited material (relative to a planar configuration) on the support 16 along the edge of the substrate 14 without the material sticking to the substrate and without interfering with the positioning and orientation of the substrate 14 on the substrate support member 16 (see Tepman, Col.4, lines 42-60). In other words, the groove of Tepman is provided to receive excess deposited material. However, in Tepman, the deposited material builds up as a result of a deposition process, and not as a result of sliding the substrate on the surface of the susceptor.

For the reasons explained above, Tepman fails to teach the combination of elements recited above in independent claim 1, as amended. Reconsideration and withdrawal of this art grounds of rejection are respectfully requested.

Sliding a Substrate (Dubois)

DuBois, like Tepman, does have any structure which can be equated with a susceptor having a sliding portion on which to slide the glass substrate. Further, a groove of DuBois does not receive material resulting from sliding of the glass substrate on the surface of the susceptor. The Applicant has meticulously searched the DuBois reference in an effort to find any one of the terms "slid", "slide" and/or "sliding". None of these terms are found in the DuBois reference. In other words, in DuBois, there is no provision to slide a substrate into position. In this regard, DuBois appears to perform a transfer which is fundamentally different from the sliding transfer of the Applicant's claimed invention.

Particularly, Dubois uses a lift mechanism 32, which vertically positions a susceptor 26 having a wafer 28 already placed thereon (see Fig. 2). DuBois provides no particularities in terms of how the wafer 28 is placed onto the susceptor 26. In the apparatus of DuBois, a sliding portion does not exist. Thus, the apparatus of DuBois does not include a sliding portion as defined by the Applicant's claims.

On the other hand, DuBois discloses a groove 44, which has two functions. Each of the functions of the groove 44 of DuBois are fundamentally different from the functions of the groove of the Applicant's claimed invention.

Firstly, the groove 44 of DuBois functions as a thermal "choke" as it reduces the cross section of the susceptor 26 at the perimeter of the wafer. In

CVD applications it is generally preferable for the wafer 28 to be uniformly heated across its entire surface. To best achieve this, the portion of the susceptor 26 located directly below the wafer 28 should have a uniform temperature. The groove 44, in reducing the cross sectional area of the susceptor at the perimeter of the wafer, and thereby acting as a thermal choke, assists in achieving the uniform temperature (see DuBois, Col.4, lines 21-37).

Secondly, the groove 44 acts to receive deposition which would otherwise build up at the edge of the wafer. This deposition build-up could detrimentally lift the wafer off the susceptor's surface resulting in unwanted backside deposition and possibly effecting the heating of the wafer by conduction from the susceptor (see DuBois, Col.4, lines 43-48). In other words, the groove of DuBois (like the groove of Tepman) is only provided to allow for additional buildup during deposition. It is not used to receive material resulting from sliding.

For the reasons explained above, DuBois fails to teach the combination of elements recited above in independent claim 1, as amended. Reconsideration and withdrawal of this art grounds of rejection are respectfully requested.

Claims 2 and 3 depend, either directly, or indirectly from independent claim 1, and therefore are allowable based on their dependence from claim 1, which is believed to be allowable. Allowance of claims 2 and 3 is respectfully requested.

Rejection Under 35 U.S.C. § 103

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tepman in view of U.S. Patent No. 5,119,761 to Rempei Nataka, and claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tepman. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

With regard to dependent claims 4 and 5-8, Applicant submits that claims 4 and 5-8 depend, either directly or indirectly, from independent claim 1, which is allowable for the reasons set forth above, and therefore claims 4 and 5-8 are allowable based on their dependence from claim 1. Reconsideration and allowance thereof are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Hyung Sohn, Registration No. 44,346, at (703) 205-8034, in the Washington, D.C. area.

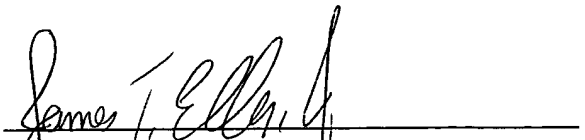
Prompt and favorable consideration of this Amendment is respectfully requested.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), the Applicant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application and the required fee of $120 is being filed concurrently herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: 

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Attachment: Verified Translation of P2000-84714

FIG.10A

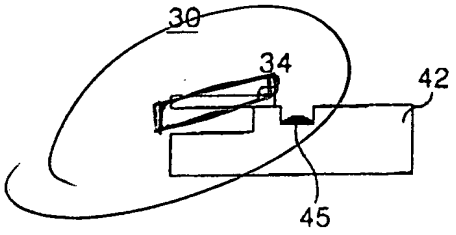

FIG.10B

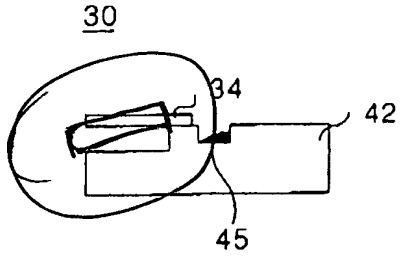

FIG.10C